

FORM PTO-1390

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

EXPRESS MAIL LABEL NO.: EL 482 000 725 US

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: HPBC C-79

U.S. APPLICATION NO.

(If known, see 37 CFR 1.5): Unknown

INTERNATIONAL APPLICATION NO.: PCT/EP99/01932 INTERNATIONAL FILING DATE: March 22, 1999

PRIORITY DATE CLAIMED: June 22, 1998

TITLE OF INVENTION: METHOD FOR COMMUNICATION BETWEEN

CONTACTLESS-TYPE DATA CARRIERS AND TERMINALS

APPLICANT(S) FOR DO/EO/US: Kurt WALLERSTORFER

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ [] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ [] This express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(l).
4. ☒ [X] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☐ [] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ [] is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ [] has been transmitted by the International Bureau.
 - c. ☐ [] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ [X] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ [X] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. ☐ [] are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ [] have been transmitted by the International Bureau.
 - c. ☐ [] have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ [] have not been made and will not be made.
8. ☐ [] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ [] An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☒ [X] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☐ [] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ [] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ [X] A FIRST preliminary amendment.
14. ☐ [] A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ [] A substitute specification.
15. ☐ [] A change of power of attorney and/or address letter.
16. ☒ [X] Other items or information:
 - 1) AMENDMENT BEFORE FIRST OFFICE ACTION with
Marked Up Specification Pages 2, 2a and 7,
Substitute Specification Pages 2, 2a and 7 and
Claim Replacement Sheets, Pages 1 and 2
 - 2) Formal Drawing - 1 sheet
 - 3) Copy of WO 99/67734
 - 4) Copy of Form PCT/RO/101 - German Language (2 pages)
 - 5) Copy of Form PCT/IPEA/408 - German Language (6 pages)
 - 6) Copy of Form PCT/IPEA/409, with enclosures, - German Language (12 pages)
 - 7) Postal Card

17. [X] The following fees are submitted:

CALCULATIONS PTO USE ONLY

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ... \$1000.00
 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$ 860.00
 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$ 710.00
 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$ 670.00
 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) ... \$ 100.00
ENTER APPROPRIATE BASIC FEE AMOUNT = \$ 860.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)). \$

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	10 - 20 =	0	X \$ 18.00	\$	0.00
Ind. claims	3 - 3 =	0	X \$ 80.00	\$	0.00
MULTIPLE DEPENDENT CLAIMS (if applicable)			+ \$270.00	\$	0.00
TOTAL OF ABOVE CALCULATIONS				= \$	860.00

Reduction of 1/2 for filing by small entity, if applicable. Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).

SUBTOTAL	-	\$	
	=	\$	860.00

Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).

TOTAL NATIONAL FEE	=	\$	860.00
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Fee for recording assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property

TOTAL FEES ENCLOSED	+ \$	
	= \$	860.00
Amount to be refunded	\$	n/a
charged	\$	n/a

a. [X] A check in the amount of \$860.00 to cover the above fees is enclosed.

b. [] Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1382. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

IN DUPLICATE

SEND ALL CORRESPONDENCE TO:
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 Kalamazoo, Michigan 49008-1699

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 Registration Number: 31 257

300.0900

PATENT APPLICATION

Express Mail Label No.: EL 482 000 725 US

Date of Mailing: December 20, 2000

Applicant(s) : Kurt WALLERSTORFER
For : METHOD FOR COMMUNICATION BETWEEN
CONTACTLESS-TYPE DATA CARRIERS AND
TERMINALS

PCT International Application No.: PCT/EP99/01932

PCT International Filing Date: March 22, 1999

U.S. Application No.

(if known, see 37 CFR 1.5): Unknown

Atty. Docket No.: HPBC C-79

Box PCT

Assistant Commissioner for Patents

Washington, DC 20231

EXPRESS MAILING CERTIFICATE

Sir:

I hereby certify that the attached paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner for Patents, Washington, DC 20231.

FLYNN, THIEL, BOUTELL & TANIS, P.C.

By: 

Date: December 20, 2000

Document(s) attached: Form PTO-1390 (in duplicate)
including enclosures listed thereon

Telephone: (616) 381-1156

391.9912

Express Mail Label No.: EL 482 000 725 US
IN THE U.S. PATENT AND TRADEMARK OFFICE

December 20, 2000

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Box PCT
Assistant Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee in the above-identified application, kindly enter the following:

IN THE CLAIMS

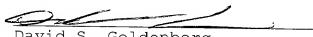
- Claim 5, line 1; delete "or 4".
Claim 9, line 2; change "any of claims 1 to 8," to
---claim 1,---.
Claim 10, line 2; change "any of claims 1 to 8," to
---claim 1,---.

REMARKS

This amendment cancels claims to reduce the filing fee.
Please enter this amendment before calculating the filing fee.

Respectfully submitted,

DSG/kc


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Encl: None

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**Method for communication between contactless-type
data carriers and terminals**

This invention relates to a method for bidirectional communication between contactless-type data carriers and terminals which are provided with devices for radiating electromagnetic waves for nongalvanic, electromagnetic coupling with the data carriers. It also relates to a data carrier and a terminal for carrying out the method.

The devices of the terminals for radiating electromagnetic waves are coils and capacitors, resonant circuits, optocouplers and the like. The data carriers, which are formed as transponders, likewise have devices such as coils, capacitors, resonant circuits, optocouplers, for nongalvanic energy and/or data transfer so that the data carriers transfer energy and/or data with the terminals, such as read/write terminals.

Contactless-type data carriers, for example contactless smart cards, are used for a great variety of applications, for example in the utilization of public transport systems, as electronic purses, health insurance ID cards and the like. Since the number of smart cards carried by a person is generally increasing constantly, a multifunctional data carrier is desirable which can be used for as many applications as possible, preferably a single personal data carrier which can be used virtually for all services utilized by a person.

Contactless-type data carriers are classified depending on the possible data transfer distance as "close coupling" data carriers with a data transfer distance between 0 and 2 millimeters and "remote coupling" data carriers, the latter being further classified as "proximity" data carriers with a data transfer distance up to 100 millimeters and "vicinity" or "hands free" data carriers with a data transfer distance of more than 100 millimeters. While close coupling or proximity data carriers can be used without any problem for some applications, there are other applications for which only vi-

cinity data carriers are suitable. For example, an electronically rechargeable subway ticket can be readily designed for data transfer to the terminal according to the "touch and go" principle, i.e. as a close coupling or proximity data carrier, while such data carriers are unsuitable, or in any case extremely awkward, for access control systems at ski lifts, for example, since the lift card can be e.g. fastened to the clothing or the data carrier integrated into a wristwatch.

The carrier frequency for data transfer, the permissible frequency bandwidth and the transmitting energy emitted by the terminal for contactless data transfer between data carriers and terminals are governed by regulations. For example, an ISO standard stipulates a carrier frequency of 13.56 MHz, whereby only a low given frequency bandwidth is permissible.

In order to solve the problem of different data transfer distances for multifunctional data carriers, one might consider increasing the emitted transmitting energy so that the vicinity data transfer distance holds for all applications. However, the maximum transmitting energy is likewise limited officially for physiological and other reasons. Also, data protection provisions oppose a vicinity data transfer distance in some applications of such a multifunctional data carrier.

WO 98/10364 discloses a method for identifying smart cards in order to let only one certain smart card from a group of similar cards communicate with a terminal. It is also known to operate terminals with lower power in economy operation (e.g. WO 98/01816).

The problem of the invention is to provide a method which permits one and the same data carrier to be used for applications with both small and large data transfer distances.

This is obtained according to the invention by varying the data transfer rate in accordance with the distance of data transfer to be bridged.

The higher the data transfer distance is, the higher the transmitting energy emitted by the terminal must be. As

stated above, however, the maximum permissible emitted transmitting energy is limited by administrative provisions. The higher the data transfer rate used, and the shorter the transaction time is thus selected for the processing operation in the device, the higher the frequency bandwidth required by the data transfer process is. Depending on the carrier frequency used, however, the frequency bandwidth is also limited by corresponding regulations.

While a low data transfer rate involves a low frequency bandwidth, thus permitting high transmitting power of the terminal, i.e. a large data transfer distance, a high data transfer rate involves a considerably greater frequency bandwidth, so that the transmitting power and thus the data transfer distance are reduced according to the invention in order to meet the governing regulations.

That is, according to the invention, data transfer is effected at a low rate in remote coupling and in particular vicinity applications for example, while a high data transfer rate is provided in proximity and in particular close coupling applications for example.

Thus, one and the same data carrier can be used for bridging small and large data transfer distances according to the invention, while heeding the relevant limiting values for frequency bandwidth and emitted electromagnetic energy.

According to the invention, the terminals and data carriers are thus so designed that the data carriers for example are suitable for use as vicinity data carriers, proximity data carriers and close coupling data carriers. Therefore, a data transfer rate as high as possible adapted to the data transfer distance to be bridged can be used for the particular application of the data carrier.

For carrying out the inventive method one preferably uses terminals having control means for varying their transmitting power in accordance with the data transfer rate. This at the same time permits use according to the invention of conventional data carriers, i.e. data carriers communicating at

only one data transfer rate, without disturbing the function and while heeding the stated relevant regulations.

Further, according to the invention the data carrier is preferably designed for carrying out the inventive method so as to communicate at different data transfer rates in accordance with the data transfer distance. This permits use according to the invention of conventional terminals, i.e. terminals whose transmitting power is not controllable in accordance with the data transfer rate, without disturbing the function and while heeding the relevant regulations.

In other words, the inventive method providing low transmitting power of the terminal and thus a small data transfer distance at a high data transfer rate, and high transmitting power of the terminal and thus a large data transfer distance at a low data transfer rate, can be realized by a data carrier communicating at different data transfer rates in accordance with the data transfer distance, and/or a terminal whose transmitting power is controllable in accordance with the data transfer rate.

The data transfer rate corresponding to the data transfer distance to be bridged is preferably varied by an additional communication step at the onset of data transfer.

In said additional communication step the relevant regulations for emitted energy, required transmission frequency band and physiological safety are heeded, whereby both inventive data carriers on conventional terminals can be used without disturbing the function and while heeding the stated relevant regulations, and inventive terminals in order to be able to read and write conventional data carriers without disturbing the function and while heeding the relevant regulations.

Said additional communication step can be constructed such that the inventive terminal emits a signal pattern to the data carriers before the onset of communication as an identification code for the data transfer rate to be selected. So that conventional data carriers can also be used

for this terminal, said signal pattern must not be misinterpreted by conventional data carriers so as to disturb and influence the subsequent data transfer.

Emission of such a signal pattern before the onset of communication as an identification code for the data transfer rate to be selected applies to those systems in which data carriers, after approaching the electromagnetic field radiated by the terminal, wait for a command from the terminal before beginning with transfer of data to the terminal.

Such a terminal used for access control at a ski lift for example thus emits a signal pattern blindly for the vicinity application, i.e. a signal pattern identifying a low data transfer rate, whereby a data carrier brought into the electromagnetic field radiated by said terminal sends back to the terminal at the slow data transfer rate intended for said terminal, without the transmitting power of the terminal being varied.

As an alternative to the abovementioned system there are methods wherein data carriers begin spontaneously with transfer of data after approaching the electromagnetic field radiated by the terminal. With an inventive terminal and an inventive data carrier which work according to the latter method, the inventive terminal can emit a signal pattern as an identification code for the data transfer rate to be selected for further data transfer after the inventive data carriers have spontaneously begun with data transfer at a given data transfer rate after approaching the electromagnetic field radiated by the terminal. The signal pattern used is one which cannot be misinterpreted by conventional data carriers, i.e. data carriers not capable of the inventive method, and therefore leads to no disturbance or influence of subsequent data transfer.

That is, if for example a large data transfer distance, i.e. low data transfer rate, is to be used and the data carrier has spontaneously begun to transmit at a high data transfer rate upon approaching the electromagnetic field of

the terminal, it receives from the terminal for further data transfer a signal pattern giving it the command to now switch to the low data transfer rate.

The signal pattern as an identification code for the particular data transfer rate can for example be amplitude-modulated according to a certain pattern. For example, a "single side band" or SSB modulation is possible, or a phase modulation.

The signal pattern as an identification code for the data transfer rate to be selected for further data transfer can also be a telegram used during the customary following communication, which is transmitted to the data carriers at the data transfer rate used for further data transfer. That is, if the terminal transmits at a low data transfer rate for example, the data carriers only send back data at a low rate.

As an identification code for the data transfer rate to be selected for data transfer one can further use a corresponding data bit signal or corresponding protocol. The identification can also be effected by a corresponding data signal before the protocol.

Adaptation of data transfer rate refers according to the invention to data transfer from the terminal to the data carrier. However, in particular if the terminal has such low reception sensitivity that data sent by the data carrier at a high data transfer rate can no longer be read, adaptation of data transfer rate can also refer to data transfer from the data carrier to the terminal or to both transfer directions.

Communication is effected according to the inventive method between contactless-type data carriers and contactless-type terminals, whereby one or more data carriers designed as transponders, i.e. having coils and other suitable devices for data reception and data transfer, are brought into the electromagnetic field emitted by the terminal for the purpose of contactless, nongalvanic, electromagnetic coupling and bidirectional data transfer.

With the use of the inventive data carrier, i.e. data carriers communicating at different data transfer rates in accordance with the data transfer distance, and with the use of the inventive terminal, i.e. a terminal which is controllable for varying its transmitting power in accordance with the data transfer rate, the inventive method permits adaptation of the data transfer rate to the data transfer distance to be bridged so that the highest possible data transfer rate can be obtained at a given data transfer distance while heeding the relevant regulations.

The transmitting power of the terminal corresponding to the data transfer rate can be varied continuously or in steps. It is possible for example to switch over the transmitting power of the terminal in only two steps, i.e. for a small, for example proximity, data transfer distance and for a large, for example vicinity, data transfer distance.

The data carrier can be designed in different ways, for example as a card, wristwatch, bracelet or key pendant.

The invention will be explained in more detail by way of example below with reference to the enclosed drawings, in which:

Fig. 1 shows a diagram rendering maximum transmitting power of the terminal as a function of frequency bandwidth,

Fig. 2 shows schematically the representation of the combination consisting of the inventive data carrier and inventive terminal.

Fig. 1 shows the maximum permissible transmitting power of the terminal and the maximum permissible frequency bandwidth at a certain carrier frequency by curve A rendered with unbroken lines. While a low frequency bandwidth occurs at a low data transfer rate according to dashed line B and thus the maximum permissible transmitting power of the terminal, i.e. a large data transfer distance, is possible, the frequency bandwidth is considerably greater at a high data transfer rate according to dotted line C and thus only low

transmitting power or a low data transfer distance is possible.

Fig. 2 shows as 1e an inventive terminal, i.e. a terminal whose transmitting power is controllable in accordance with the data transfer rate, as 1k a conventional terminal without such control of the transmitting power, as 2e an inventive data carrier communicating at different data transfer rates in accordance with the data transfer distance, and as 2k a conventional data carrier whose communication ability is restricted to a single data transfer rate. According to variants A and B the inventive method can also be performed when conventional data carriers 2k communicate with inventive terminals (A) or conventional terminals 1k with inventive data carriers (B). According to variant C using an inventive terminal and an inventive data carrier, the maximum possible data transfer rate can be attained both at a large data transfer distance (a) and at a small data transfer distance (b).

Claims

1. A method for bidirectional communication between contactless-type data carriers and terminals which are provided with devices for radiating electromagnetic waves for nongalvanic, electromagnetic coupling with the data carriers, characterized in that the data transfer rate is fixed in accordance with the distance of data transfer to be bridged.

2. A method according to claim 1, characterized in that the data transfer rate corresponding to the data transfer distance to be bridged is fixed by an additional communication step at the onset of data transfer.

3. A method according to claim 2, characterized in that the additional communication step is constructed such that the terminal emits a signal pattern before the onset of communication as an identification code for the particular data transfer rate.

4. A method according to claim 2, characterized in that upon spontaneous data transfer after the data carrier approaches the electromagnetic field radiated by the terminal the additional communication step is constructed such that the terminal emits a signal pattern as an identification code for the data transfer rate to be selected for further communication.

5. A method according to claim 3 or 4, characterized in that the signal pattern as an identification code for the particular data transfer rate is amplitude- and/or phase-modulated.

6. A method according to claim 3, characterized in that the signal pattern is a telegram which is transmitted to the data carriers at the data transfer rate used for further communication.

7. A method according to claim 1, characterized in that the transmitting power of the terminal corresponding to the data transfer rate is varied in steps.

8. A method according to claim 7, characterized in that the transmitting power of the terminal is varied in two steps for a small data transfer distance and a larger data transfer distance.

9. A data carrier for carrying out the method according to any of claims 1 to 8, characterized in that it has communication ability at different data transfer rates in accordance with the data transfer distance.

10. A terminal for carrying out the method according to any of claims 1 to 8, characterized in that it is provided with control means for varying its transmitting power in accordance with the data transfer rate.

Abstract

In a method for bidirectional communication between contactless-type data carriers and terminals, the rate of data transfer is variable in accordance with the distance of data transfer to be bridged.

PCTWELTORGANISATION FÜR GEISTIGES EIGENTUM
Internationales Büro
 INTERNATIONALE ANMELDUNG VERÖFFENTLICHT NACH DEM VERTRAG ÜBER DIE
 INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT)
(51) Internationale Patentklassifikation ⁶ :

G06K 7/00, H04L 5/14, H04B 5/00

A1

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198 27 691.5

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DE

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(72) Erfinder; und

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(81) Bestimmungsstaaten: CA, JP, US, europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Veröffentlicht

Mit internationalem Recherchenbericht.

(54) Title: METHOD FOR THE COMMUNICATION BETWEEN NON-CONTACT DATA CARRIERS AND TERMINALS

(54) Bezeichnung: VERFAHREN ZUR KOMMUNIKATION ZWISCHEN BERÜHRUNGSLOS ARBEITENDEN DATENTRÄGERN UND ENDGERÄTEN

(57) Abstract

The invention relates to a method for the bidirectional communication between non-contact data carriers and terminals, according to which the speed of data transmission can be modified in accordance with the distance to be bridged by the data transmission.

(57) Zusammenfassung

Bei einem Verfahren zur bidirektionalen Kommunikation zwischen berührungslos arbeitenden Datenträgern und Endgeräten ist die Geschwindigkeit der Datenübertragung in Abhängigkeit von der zu überbrückenden Entfernung der Datenübertragung veränderbar.

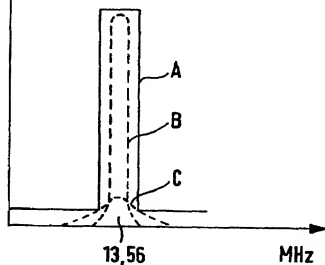
 Sende-
leistung
↑
TRANSMISSION
POWER


FIG. 1

1/1

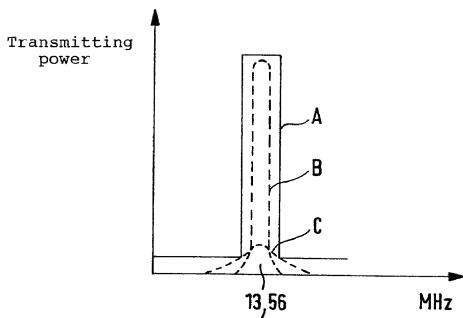
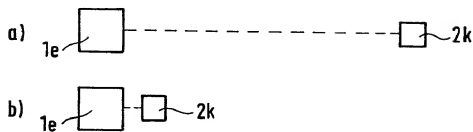
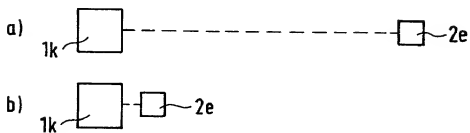
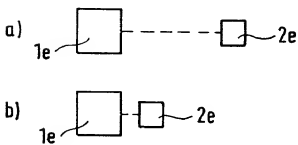


FIG. 2

ABC

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
METHOD FOR COMMUNICATION BETWEEN CONTACTLESS-TYPE DATA CARRIERS

AND TERMINALS

the specification of which

_____ is attached hereto

or

X was filed on December 20, 2000, as United States
Application No. 09/720 374 or PCT International
Application
No. _____ and was amended on

_____. (If applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

<u>Prior Foreign Application(s)</u>	<u>Priority Not Claimed</u>	<u>Certified Copy Attached</u>
_____ (Number) <u>Germany</u> <u>22 June 1998</u> (Country) (Day/Month/Year)	_____	Yes ___ No <u>X</u>
_____ (Number) (Country) (Day/Month/Year)	_____	Yes ___ No ___
_____ (Number) (Country) (Day/Month/Year)	_____	Yes ___ No ___

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or §365(c) of any PCT International application designating the United States, listed

below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Application Serial No.)	22 March 1999 (Filing Date)	(Parent Patent Number) (If applicable)
(Application Serial No.)	(Filing Date)	(Parent Patent Number) (If applicable)

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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